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EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL D. MANNHEIMER, MICHAEL E. FEIN
and CHARLES E. PORGES

Appeal 2009-004719
Application 10/798,596
Technology Center 3700

Decided:[1] May 29, 2009

Before ERIC GRIMES, RICHARD M. LEBOVITZ, and STEPHEN WALSH, *Administrative Patent Judges*.

WALSH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a pulse oximeter sensor. The Patent Examiner rejected the claims for lack of

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

support in the original written description. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

The claimed invention is an oximeter sensor. Oximetry is typically used to measure blood flow characteristics such as the blood-oxygen saturation of hemoglobin. (Spec. 1:11-13.) Measurement is accomplished by passing light through a portion of a patient's tissues and photoelectrically sensing the absorption of the light. (*Id.* at 14-16.) "The amount of light absorbed is then used to calculate the amount of blood constituent being measured." (*Id.* at 16-18.)

Claim 1 is representative and reads as follows:

1. An oximeter sensor comprising:

a light emitter for directing light at a patient;
a light detector mounted to receive light from the patient; and
a memory storing
a first formula for determining oxygen saturation,
a second formula for determining oxygen saturation,
a first set of coefficients corresponding to a wavelength of the light emitter for use in the first formula, and
a second set of coefficients corresponding to the wavelength of the light emitter for use in the second-formula,
wherein the first formula differs from the second formula.

Claims 1-7, 9-26 and 46-53 are on appeal.[2] The Examiner rejected the claims under 35 U.S.C. § 112, first paragraph, on the ground that the claims contain subject matter not described in the original disclosure.

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[2] Claim 8 was cancelled. (App. Br. 2.) Claims 27-45 are also pending but were withdrawn from consideration by the Examiner. (*Id.*)

WRITTEN DESCRIPTION

The Issue

The Examiner's position is that the original disclosure described a sensor memory that stored coefficients, but not formulas. (Ans. 3.) According to the Examiner, formulas were described as resident in the reader/monitor, not in the sensor. (*Id.*) Finding no description of the claimed sensor comprising "a memory storing a first formula for determining oxygen saturation, [and] a second formula for determining oxygen saturation," the Examiner rejected the claims for lack of written description, i.e., a new matter rejection.

Appellants point to the original disclosure that "any function can be used for the formulas for determining oxygen saturation . . . . For a limited *sensor memory, the function* representation may be compressed." (App. Br. 7, quoting Spec. 9:15-17.) Appellants argue that the terms formula and function were used interchangeably, and have similar meanings. (*Id.* at 8.) Thus, Appellants contend that a person of ordinary skill would have understood the Specification's disclosure about compressed functions meant that the functions (or formulas) were stored in the sensor memory. (*Id.*)

This appeal turns on how a person of ordinary skill in the art would have understood the sentence "[f]or a limited sensor memory, the function representation may be compressed." The issues are:

would a person of ordinary skill in the art have understood the sentence to include "formula" where "function" was written; and

would a person of ordinary skill in the art have inferred that the instruction to accommodate limited sensor memory by compressing the

function representation meant that the function representation was being stored in the sensor memory?

Findings of Fact

1. The "Summary of the Invention" part of the original disclosure states: "the sensor can store a variable breakpoint between the two functions used for oxygen saturation. The two functions could either be separate formulas or the same formula with different coefficients." (Spec. 3:30-32.)
2. The "Cubic Spline Calculation" part of the original disclosure states: "any function can be used for the formulas for determining oxygen saturation, not just the ones described. For a limited sensor memory, the function representation may be compressed." (Spec. 9:15-17.)

Principles of Law

"The proper basis for rejection of a claim amended to recite elements thought to be without support in the original disclosure . . . is § 112, first paragraph, ..." *In re Rasmussen*, 650 F.2d 1212, 1214 (CCPA 1981). "If the applicant claims embodiments of the invention that are completely outside the scope of the specification, then the examiner or Board need only establish this fact to make out a prima facie case. . . . To overcome a prima facie case, an applicant must show that the invention as claimed is adequately described to one skilled in the art." *In re Alton*, 76 F.3d 1168, 1175 (Fed. Cir. 1996). If an Examiner has notified an Applicant exactly what the Examiner found was missing, "the burden was then properly shifted to [the Applicant] to cite to the examiner where adequate written

description could be found, or to make an amendment to address the deficiency." *Hyatt v. Dudas*, 492 F.3d 1365, 1371 (Fed. Cir. 2007).

"It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, . . . and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990).

Analysis

We find that the original Specification expressly stated that a function can be a formula. (FF1.) Interpreted with that meaning, the original Specification's teaching that a "function representation may be compressed" also meant that a formula can be compressed. The purpose of compression was to accommodate limited sensor memory. (FF2.) Although it was not a disclosure in express terms, we find that a person of ordinary skill in the art would have understood the compression disclosure as meaning that functions or formulas could be stored in the sensor memory, and they could be compressed if the sensor memory was limited. We find that Appellants have identified where an adequate description can be found and have met their burden under *Hyatt v. Dudas*.

The Examiner's Answer refers to a disclosure that formulas were described as resident in the reader/monitor, not in the sensor. (Ans. 3.) The Answer does not cite where this disclosure was made, and we have not found it in the Specification, drawings, or original claims. We find that the Specification disclosure at 9:15-17 indicated that functions or formulas could be stored in the sensor memory. (FF2.)

CONCLUSIONS OF LAW

A person of ordinary skill in the art would have understood the original Specification as including "formula" where "function" was used; and

a person of ordinary skill in the art would have inferred that the option to compress function representation for a limited sensor memory meant that a function or formula could be stored in the sensor memory.

SUMMARY

We reverse the rejection of claims 1-7, 9-26 and 46-53 under 35 U.S.C. § 112, first paragraph.

REVERSED

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